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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,031	02/06/2002	Hidetaka Ozawa	OAC-018	7237
959	7590	07/07/2004		
LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109				
			EXAMINER RIDDLE, KYLE M	
			ART UNIT 3748	PAPER NUMBER

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/068,031

Applicant(s)

OZAWA ET AL.

Examiner

Kyle M. Riddle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-10, 12-17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 4, 11 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The arguments presented in applicant's amendment received 2 April 2004 were deemed persuasive, however, a new non-final rejection is set forth below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5-10, 12-17, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Boie et al. (U.S. Patent 6,340,008).

Boie et al. disclose controlling an electromagnetic actuator comprising:

- an electromagnetic actuator 1 for actuating a cylinder valve 2 of a piston-type internal combustion engine (column 1, lines 7-9, column 4, lines 61-62);
- a pair of electromagnets consisting of a closing magnet 3 and an opening magnet 4 to move armature 5 between two end positions (column 4, lines 62-65);
- a pair of springs 7, 8 (column 4, lines 65-66) designed to hold the armature 5 in the center position when the electromagnets are not activated (column 5, lines 22-27);
- an engine control unit 9 controlling valve actuation as a function of operating data such as load, rpm, temperature, etc. (column 1, lines 35-51, column 5, lines 30-33);

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- applying a current and voltage during a first period beginning at the start of the release of the armature to influence the initial speed of the armature (abstract, column 5, lines 62-66, column 6, lines 43-47);

- sensing actual values of armature movement and comparing to a predetermined target window and making voltage corrections through closed-loop control through all regions A, B, C, D, and E of armature movement (column 7, lines 3-15, lines 20-30, lines 45-50).

Allowable Subject Matter

4. Claims 4, 11, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 5 patents.

- Pischinder et al. (U.S. Patent 6,003,481) disclose a method of controlling the movement and damping the impact of an armature based on engine operating conditions.

- Cosfeld et al. (U.S. Patent 6,196,172) disclose a method of controlling the movement of an armature based on engine operating conditions.

- Pischinger et al. (U.S. Patent 6,247,432) disclose an electromagnetic actuator controlling the speed and damping the armature before impact.

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- Hein et al. (U.S. Patent 6,321,700) disclose an electromagnetic actuator controlling the armature based on operating parameters including speed and load of the engine.

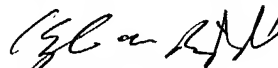
- Kemper et al. (U.S. Patent 6,427,651) disclose an electromagnetic actuator controlling the armature based on the speed and load of the engine.

Communication

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (703) 306-3409. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703) 308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kyle M. Riddle
Examiner
Art Unit 3748

kmr



THOMAS DENION
SUPERVISORY PATENT EXAMINER
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